

## 6202.0 - Labour Force, Australia, Jan 2007

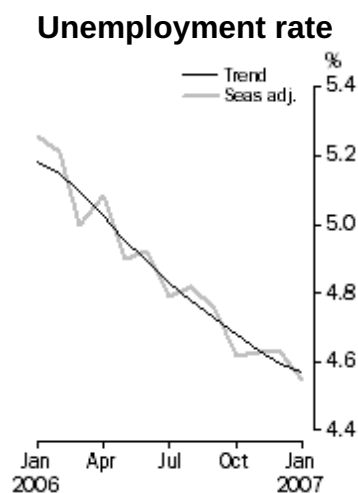
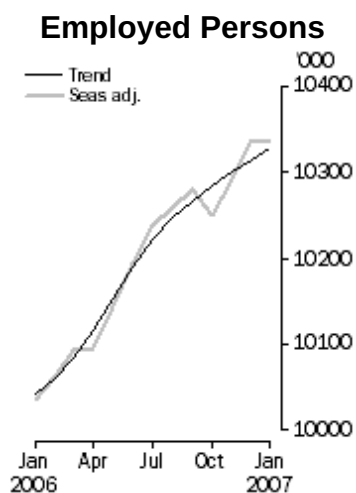
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## Summary

### Main Features

#### JANUARY KEY FIGURES

	Dec 2006	Jan 2007	Dec 06 to Jan 07	Jan 06 to Jan 07
<b>Trend</b>				
Employed persons ('000)	10 315.3	10 327.9	12.5	2.8%
Unemployed persons ('000)	496.9	494.5	-2.4	-9.9%
Unemployment rate (%)	4.6	4.6	0.0pts	-0.6pts
Participation rate (%)	64.8	64.8	0.0pts	0.4pts
<b>Seasonally Adjusted</b>				
Employed persons ('000)	10 338.3	10 334.8	-3.6	3.0%
Unemployed persons ('000)	501.9	492.5	-9.4	-11.6%
Unemployment rate (%)	4.6	4.5	-0.1pts	-0.7pts
Participation rate (%)	65.0	64.8	-0.2pts	0.4pts



#### JANUARY KEY POINTS

#### TREND ESTIMATES (MONTHLY CHANGE)

- EMPLOYMENT increased to 10,327,900
- UNEMPLOYMENT decreased to 494,500
- UNEMPLOYMENT RATE remained at 4.6%
- PARTICIPATION RATE remained at 64.8%

## **SEASONALLY ADJUSTED ESTIMATES (MONTHLY CHANGE)**

### **EMPLOYMENT**

- decreased by 3,600 to 10,334,800. Full-time employment increased by 3,200 to 7,384,800 and part-time employment decreased by 6,700 to 2,949,900.

### **UNEMPLOYMENT**

- decreased by 9,400 to 492,500. The number of persons looking for full-time work decreased by 4,500 to 355,300 and the number of persons looking for part-time work decreased by 4,900 to 137,200.

### **UNEMPLOYMENT RATE**

- decreased by 0.1 percentage point to 4.5%. The male unemployment rate decreased 0.1 percentage point but the rounded estimate remained at 4.3%, and the female unemployment rate decreased by 0.1 percentage point to 4.9%.

### **PARTICIPATION RATE**

- decreased by 0.2 percentage points to 64.8%.

## **NOTES**

### **FORTHCOMING ISSUES**

<b>ISSUE</b>	<b>Release Date</b>
February 2007	15 March 2007
March 2007	12 April 2007
April 2007	10 May 2007
May 2007	7 June 2007
June 2007	12 July 2007
July 2007	9 August 2007

### **ANNUAL REVIEW OF SEASONALITY**

In addition to the ongoing monthly revision of seasonal factors, an annual review of seasonality is usually undertaken in February each year. The annual review does not normally result in significant changes to published estimates. The review for 2007 will be delayed until the second quarter of 2007.

### **ROUNDING**

Estimates of monthly change shown on the front cover have been calculated using

unrounded estimates, and may be different from, but are more accurate than, movements obtained from the rounded estimates. The graphs on the front cover also depict unrounded estimates.

## **SAMPLING ERRORS**

The estimates in this publication are based on a sample survey. Because the entire population is not enumerated, the published estimates and the movements derived from them are subject to sampling variability. Standard errors give a measure of this variability and appear on pages 28 and 29.

The 95% confidence intervals below provide another way of looking at the variability inherent in estimates from sample surveys. The interval bounded by the two limits is the 95% confidence interval. A 95% confidence interval has a 95% chance of including the true value of the estimate.

### **Movements in seasonally adjusted series between December 2006 and January 2007**

	<b>Monthly change</b>	<b>95% Confidence interval</b>		
Total Employment	-3 600	-56 600	to	49 400
Total Unemployment	-9 400	-37 600	to	18 800
Unemployment rate	-0.1 pts	-0.3 pts	to	0.1 pts
Participation rate	-0.2 pts	-0.6 pts	to	0.2 pts

## **INQUIRIES**

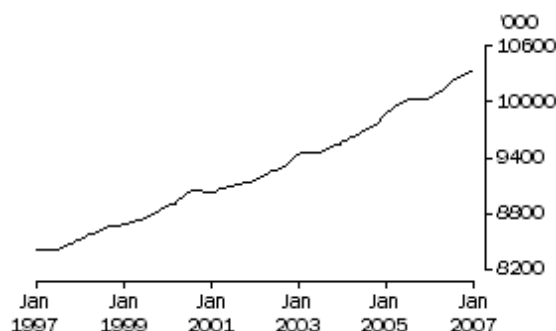
For further information about these and related statistics, contact the National Information and Referral Service on 1300 135 070 or Bjorn Jarvis on Canberra (02) 6252 6525.

# **Principal labour force series,Trend estimates**

## **PRINCIPAL LABOUR FORCE SERIES TREND ESTIMATES**

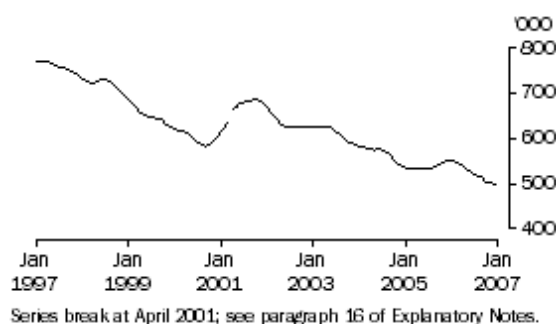
### **EMPLOYED PERSONS**

The trend estimate of employed persons rose from 8,408,700 in January 1997 to 9,056,400 in September 2000. The trend then fell slightly to 9,037,500 in January 2001, before generally rising to stand at a high of 10,327,900 in January 2007.



## UNEMPLOYED PERSONS

The trend estimate of unemployed persons generally fell from 771,000 in January 1997 to 583,700 in September 2000, before rising to 685,700 in October 2001. The trend then fell to 532,700 in January 2005, remained relatively stable for 18 months, before falling to stand at 494,500 in January 2007.



## UNEMPLOYMENT RATE

The trend unemployment rate generally fell from 8.4% in January 1997 to 6.1% in September 2000. After rising to 7.0% in October 2001, the trend fell to 5.1% in January 2005. After remaining relatively stable for 18 months the trend has fallen to stand at 4.6% in January 2007.



## Employed Persons, Trend estimates

### EMPLOYED PERSONS TREND ESTIMATES

# MALES EMPLOYED FULL TIME

## TOTAL

The trend estimate for males employed full time generally rose from 4,204,200 in January 1997 to 4,400,100 in August 2000, before falling to 4,334,200 in June 2001. Since then, the trend has risen to stand at 4,815,400 in January 2007.



## MALES AGED 15-19 YEARS

Although fluctuating, the trend estimates of males aged 15 to 19 years employed full time decreased from 147,000 in January 1997 to 135,700 in February 2001. Despite falls in 2001 and 2004, the trend increased to 164,500 in March 2005. Since then, the trend has generally fallen to stand at 154,600 in January 2007.



## MALES AGED 20 YEARS AND OVER

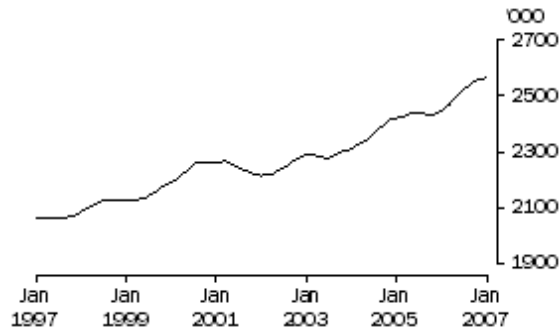
The trend estimate of males aged 20 years and over employed full time rose gradually from 4,057,200 in January 1997 to 4,255,200 in August 2000. After a slight fall to 4,191,000 in July 2001, the trend has since generally risen to stand at 4,660,800 in January 2007.



## FEMALES EMPLOYED FULL TIME

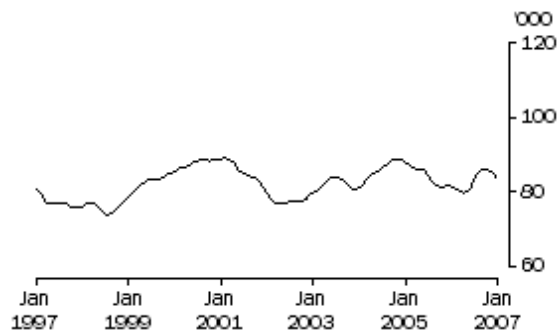
### TOTAL

The trend estimate of females employed full time generally rose from 2,066,900 in January 1997 to 2,266,800 in March 2001. The trend then fell to 2,215,700 in January 2002, before generally rising to stand at 2,564,400 in January 2007.



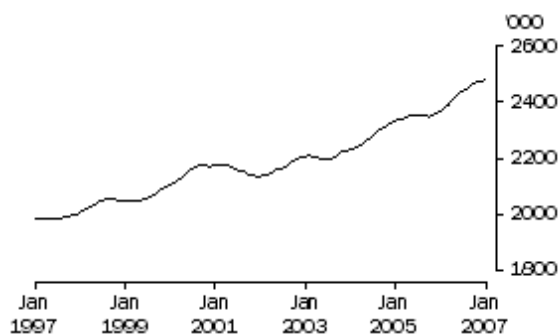
### FEMALES AGED 15-19 YEARS

The trend estimate of females aged 15 to 19 years employed full time generally fell from 80,800 in January 1997 to 74,000 in August 1998. The trend rose to 89,200 in February 2001, before falling to 76,800 in April 2002. The trend then generally increased to 88,900 in November 2004 and, after falling to 79,600 in April 2006, has since increased to stand at 83,700 in January 2007.



### FEMALES AGED 20 YEARS AND OVER

The trend estimate of females aged 20 years and over employed full time generally rose from 1,986,100 in January 1997 to 2,177,900 in March 2001. After falling slightly to 2,135,500 in December 2001, the trend has generally risen to stand at 2,480,700 in January 2007.



## About this Release

Summary results of the monthly Labour Force Survey containing estimates of employed and unemployed persons classified by sex, full-time/part-time status, states and territories and some age groups; and persons not in the labour force.

6202.0 was published as Labour Force, Australia, Preliminary until March 2003. As the publication had provided final summary data for a number of years to that point, the misleading qualification preliminary was removed from the April 2003 issue onwards.

# Explanatory Notes

## Explanatory Notes

### EXPLANATORY NOTES

#### INTRODUCTION

**1** This publication contains estimates of the civilian labour force derived from the Labour Force Survey component of the Monthly Population Survey. The full time series for estimates from this publication are also available electronically - see **Labour Force, Australia, Spreadsheets** (cat. no. 6202.0.55.001). More detailed estimates are released one week after this publication in various electronic formats - see **Labour Force, Australia, Detailed - Electronic Delivery** (cat. no. 6291.0.55.001) and **Labour Force, Australia, Detailed, Quarterly** (cat. no. 6291.0.55.003).

#### CONCEPTS, SOURCES AND METHODS

**2** The conceptual framework used in Australia's Labour Force Survey aligns closely with the standards and guidelines set out in Resolutions of International Conferences of Labour Statisticians. Descriptions of the underlying concepts and structure of Australia's labour force

statistics, and the sources and methods used in compiling the estimates, are presented in **Labour Statistics: Concepts, Sources and Methods** (cat. no. 6102.0.55.001) which is available on the ABS web site <<https://www.abs.gov.au>> (Methods, Classifications, Concepts & Standards).

## **LABOUR FORCE SURVEY**

**3** The Labour Force Survey is based on a multi-stage area sample of private dwellings (currently about 30,000 houses, flats, etc.) and a list sample of non-private dwellings (hotels, motels, etc.), and covers about 0.45% of the population of Australia. Information is obtained from the occupants of selected dwellings by specially trained interviewers.

**4** The information is collected using computer-assisted interviewing (CAI), whereby responses are recorded directly onto an electronic questionnaire on a notebook computer. The CAI method was progressively implemented from October 2003 to August 2004, replacing the 'pen and paper' method previously used.

**5** Households selected for the Labour Force Survey are interviewed each month for eight months, with one-eighth of the sample being replaced each month. The first interview is conducted face-to-face. Subsequent interviews are conducted by telephone (if acceptable to the respondent).

**6** The interviews are generally conducted during the two weeks beginning on the Monday between the 6th and 12th of each month. The information obtained relates to the week before the interview (i.e. the reference week). Each year, to deal with operational difficulties involved with collecting and processing the Labour Force Survey around the Christmas and New Year holiday period, interviews for December start four weeks after November interviews start, and January interviews start five weeks after December interviews start. As a result, January interviewing may commence as early as the 8th or as late as the 14th, depending on the year. Occasionally, circumstances that present significant operational difficulties for survey collection can result in a change to the normal pattern for the start of interviewing.

**7** Estimates from the Labour Force Survey are published first in this publication 31 days after the commencement of interviews for that month, with the exception of estimates for each December which are published 38 days after the commencement of interviews.

## **SCOPE OF SURVEY**

**8** The Labour Force Survey includes all persons aged 15 years and over except members of the permanent defence forces, certain diplomatic personnel of overseas governments customarily excluded from census and estimated population counts, overseas residents in Australia, and members of non-Australian defence forces (and their dependants) stationed in Australia.

## **COVERAGE**



**9** In the Labour Force Survey, coverage rules are applied which aim to ensure that each person is associated with only one dwelling, and hence has only one chance of selection. The coverage rules are necessarily a balance between theoretical and operational considerations. Nevertheless, the chance of a person being enumerated at two separate dwellings in the survey is considered to be negligible.

## **POPULATION BENCHMARKS**

**10** Labour Force Survey estimates are calculated in such a way as to add up to independent estimates of the civilian population aged 15 years and over (population benchmarks). These population benchmarks are projections of the most recently released quarterly Estimated Resident Population (ERP) data. For information on the methodology used to produce the ERP see **Australian Demographic Statistics Quarterly** (cat. no. 3101.0). To create the population benchmarks for the Labour Force Survey, the most recently released quarterly ERP estimates are projected forward one quarter past the period for which they are required. The projection is based on the historical pattern of each population component - births, deaths, interstate migration and overseas migration. By projecting one quarter past that needed for the current population benchmarks, demographic changes are smoothed in, thereby making them less noticeable in the population benchmarks.

**11** The ERP series are revised annually in the March quarter issue of **Australian Demographic Statistics Quarterly** (cat. no. 3101.0), released in September each year, to incorporate more up to date information available for the population components. The revised ERP estimates are used to update the quarterly population projections used in creating the Labour Force Survey population benchmarks. Benchmarks already used in producing Labour Force Survey estimates are not updated. A process of smoothing is used in the creation of population benchmarks to reduce the effect of these annual revisions to ERP estimates on the Labour Force Survey population benchmarks.

**12** The revisions to the ERP estimates published in the March quarter 2006 issue of **Australian Demographic Statistics Quarterly** (cat. no. 3101.0) were larger than expected. These revisions were reflected in the October, November and December 2006 population benchmarks, which increased by 29,100 each month. This increase was considerably larger than the average monthly increase over the previous 12 months.

**13** Every five years the ERP series are revised to incorporate additional information available from the latest Census of Population and Housing. Following the incorporation of Census information, the ERP series prior to the latest Census are final and subject to no further revision. Labour Force Survey population benchmarks, and the estimates, are revised following this 5-yearly revision in the ERP. From the February 2004 issue of this publication, labour force estimates have been compiled using population benchmarks based on the results of the 2001 Census of Population and Housing. Revisions were made in that issue to historical labour force estimates from January 1999 to January 2004.

## **COMPARABILITY OF SERIES**

**14** From April 1986, the definition of employed persons was changed to include persons who worked without pay between 1 and 14 hours per week in a family business or on a farm (i.e.

contributing family workers). For further information, see paragraphs 36 and 37 of the Explanatory Notes to the February 1987 issue of **Labour Force, Australia** (cat. no. 6203.0).

**15** The ABS introduced telephone interviewing into the Labour Force Survey in August 1996. Implementation was phased in for each new sample group from August 1996 to February 1997. During the period of implementation, the new method produced different estimates than would have been obtained under the old methodology. The effect dissipated over the final months of implementation and was no longer discernible from February 1997. The estimates for February 1997 and onwards are directly comparable to estimates for periods prior to August 1996. For further details, see the feature article in the June 1997 issue of **Labour Force, Australia** (cat. no. 6203.0).

**16** From April 2001 the Labour Force Survey has been conducted using a redesigned questionnaire containing additional data items and some minor definitional changes. The definition of unemployed persons was changed to include all persons who were waiting to start work and were available to start in the reference week. This change was introduced in February 2004, when historical unit record data were revised from April 2001 to January 2004. This revision created a small trend break at April 2001 in unemployed persons and unemployment rate series. For further details, see **Information Paper: Forthcoming Changes to Labour Force Statistics** (cat. no. 6292.0).

**17** Core labour force series were revised in April 2001 for the period April 1986 to March 2001 for the remaining definitional changes introduced with the redesigned questionnaire, to reduce the impact of the changes on labour force series. For further details, see **Information Paper: Implementing the Redesigned Labour Force Survey Questionnaire** (cat. no. 6295.0) and **Information Paper: Questionnaires Used in the Labour Force Survey** (cat. no. 6232.0).

## **SURVEY SAMPLE REDESIGN**

**18** The Labour Force Survey sample was last reselected using information collected in the 2001 Census of Population and Housing.

**19** The bulk of the new sample was phased in over the period November 2002 to June 2003, with one-eighth of this portion of the sample being introduced every month. The remainder of the sample (about 18% of the total), which covers less settled areas of Australia and non-private dwellings was rotated in full for New South Wales, Victoria, Tasmania, Northern Territory and Australian Capital Territory in November 2002, and for Queensland, South Australia and Western Australia in December 2002. Such a pattern of implementation means that any changes to labour force estimates due to differences between the two samples, or any other influences, were spread over the eight months.

**20** For further details, see **Information Paper: Labour Force Survey Sample Design** (cat. no. 6269.0) and **Technical Report: New Labour Force Survey sample selections: analysis of the effect on estimates** in the October 2003 issue of **Australian Labour Market Statistics** (cat. no. 6105.0).

## RELIABILITY OF ESTIMATES

**21** Two types of error are possible in an estimate based on a sample survey: sampling error and non-sampling error.

**22** Sampling error occurs because a sample, rather than the entire population, is surveyed. One measure of the likely difference resulting from not including all dwellings in the survey is given by the standard error. There are about two chances in three that a sample estimate will differ by less than one standard error from the figure that would have been obtained if all dwellings had been included in the survey, and about nineteen chances in twenty that the difference will be less than two standard errors. Standard errors of estimates for the latest month and of estimates of movements since the previous month are shown on pages 28 and 29. Standard errors of other estimates and other movements may be determined by using information in the paper **Labour Force Survey Standard Errors** (cat. no. 6298.0) which is available free of charge on the ABS web site <<https://www.abs.gov.au>> (Statistics).

**23** Non-sampling error arises from inaccuracies in collecting, recording and processing the data. Every effort is made to minimise reporting error by the careful design of questionnaires, intensive training and supervision of interviewers, and efficient data processing procedures. Non-sampling error also arises because information cannot be obtained from all persons selected in the survey. The Labour Force Survey receives a high level of co-operation from individuals in selected dwellings, with the average response rate over the last year being 96%. See Glossary for definition of response rate.

## SEASONAL ADJUSTMENT AND TREND ESTIMATION

**24** Seasonal adjustment is a means of removing the estimated effects of normal seasonal variation from the series so that the effects of other influences on the series can be more clearly recognised. Seasonal adjustment does not aim to remove the irregular or non-seasonal influences which may be present in any particular month. This means that month-to-month movements of the seasonally adjusted estimates may not be reliable indicators of trend behaviour.

**25** The Labour Force Survey uses the concurrent seasonal adjustment method to derive seasonal factors. Concurrent seasonal adjustment uses data up to the current month to estimate seasonal factors for the current and all previous months. This process can result in revisions each month to estimates for earlier periods. However, in most instances, the only noticeable revisions will be to the seasonally adjusted estimates for the previous month and one year prior to the current month.

**26** Seasonal adjustment is able to remove the effect of events which occur at the same time in the survey every year. However, there are some events, like holidays, which are not always at the same time in the survey cycle or which are not at the same time across Australia. The effects of these types of events on LFS estimates cannot in all cases be removed, because the pattern of their effects cannot be determined. However, two events which are adjusted for in the seasonally adjusted series are the January interview start date and the timing of Easter.

**27** For more information on concurrent seasonal adjustment and survey proximity to holiday

periods, see **Information Paper: Forthcoming Changes to Labour Force Statistics** (cat. no. 6292.0) released in December 2003.

**28** While seasonal factors for the complete time series are estimated each month, they will continue to be reviewed annually at a more detailed level to take into account each additional year's original data. This annual review will not normally result in significant changes to published estimates. The review is usually conducted in February each year with the results released in the February issue of this publication. In 2007 the review will be delayed until the second quarter.

**29** The smoothing of seasonally adjusted series to produce 'trend' series reduces the impact of the irregular component of the seasonally adjusted series. These trend estimates are derived by applying a 13-term Henderson-weighted moving average to all months except the last six. The last six monthly trend estimates are obtained by applying surrogates of the Henderson average to the seasonally adjusted series. Trend estimates are used to analyse the underlying behaviour of a series over time.

**30** While this smoothing technique enables estimates to be produced for the latest month, it does result in revisions in addition to those caused by the revision of seasonally adjusted estimates. Generally, revisions due to the use of surrogates of the Henderson average become smaller, and after three months have a negligible impact on the series.

**31** Trend estimates are published for the Northern Territory in table 10 and for the Australian Capital Territory in table 11. Unadjusted series for the two territories have shown, historically, a high degree of variability, which can lead to considerable revisions to the seasonally adjusted estimates each month when seasonal factors are estimated. For this reason, seasonally adjusted estimates are not currently published for the two Territories. In addition, caution should be exercised in the interpretation of trend estimates for the two territories, particularly for the three most recent months, where revisions may be relatively large.

**32** For further information, see **A Guide to Interpreting Time Series - Monitoring Trends** (cat. no. 1349.0) or contact the Assistant Director, Time Series Analysis on (02) 6252 6345.

## RELATED PUBLICATIONS

**33** Users may also wish to refer to **Australian Labour Market Statistics** (cat. no. 6105.0). This publication contains additional tables and a detailed list of related publications. For further information about this publication, please contact the Assistant Director, Labour Market Statistics on (02) 6252 7636.

**34** ABS Information about the labour market can be found on the Labour theme page on the ABS web site <<http://www.abs.gov.au>>(Themes), or from ABS Bookshops.

**35** Current publications and other products released by the ABS are listed in the **Catalogue of Publications and Products** (cat. no. 1101.0). The Catalogue is available from any ABS office or the ABS web site <<https://www.abs.gov.au>> (Statistics). The ABS also issues a daily Release Advice on the web site (Future Releases) which details products to be released in

the week ahead.

## **DATA AVAILABLE ON REQUEST**

**36** As well as the statistics included in this and related publications, the ABS may have other relevant data available. Inquiries should be made to the Labour Force contact officer on (02) 6252 6525 or to any ABS office.

## **EFFECTS OF ROUNDING**

**37** Estimates have been rounded and discrepancies may occur between sums of the component items and totals.

**38** Estimates of movement shown in this publication are obtained by taking the difference of unrounded estimates. The movement estimate is then rounded to one decimal place. Therefore where a discrepancy occurs between the reported movement and the difference of the rounded estimates, the reported movement will be more accurate.

## **SYMBOLS AND OTHER USAGES**

### **39 SYMBOLS AND OTHER USAGES**

pts percentage points

# **Glossary**

## **GLOSSARY**

### **Actively looking for work**

Includes writing, telephoning or applying in person to an employer for work; answering an advertisement for a job; checking factory noticeboards or the touchscreens at the Centrelink offices; being registered with Centrelink as a jobseeker; checking or registering with any other employment agency; advertising or tendering for work; and contacting friends or relatives.

### **Attending full-time education**

Persons aged 15-24 years enrolled at secondary or high school or enrolled as a full time student at a Technical and Further Education (TAFE) college, university, or other educational institution in the reference week.

## **Attending school**

Persons aged 15-19 years enrolled at secondary or high school in the reference week.

## **Attending tertiary educational institution full time**

Persons aged 15-24 years enrolled full time at a TAFE college, university, or other educational institution in the reference week, except those persons aged 15-19 years who were still attending school.

## **Civilian population aged 15 years and over**

All usual residents of Australia aged 15 years and over except members of the permanent defence forces, certain diplomatic personnel of overseas governments customarily excluded from census and estimated population counts, overseas residents in Australia, and members of non-Australian defence forces (and their dependants) stationed in Australia.

## **Employed**

All persons aged 15 years and over who, during the reference week:

- worked for one hour or more for pay, profit, commission or payment in kind in a job or business, or on a farm (comprising employees, employers and own account workers); or
- worked for one hour or more without pay in a family business or on a farm (i.e. contributing family workers); or
- were employees who had a job but were not at work and were:
  - away from work for less than four weeks up to the end of the reference week; or
  - away from work for more than four weeks up to the end of the reference week and received pay for some or all of the four week period to the end of the reference week; or
  - away from work as a standard work or shift arrangement; or
  - on strike or locked out; or
  - on workers' compensation and expected to return to their job; or
- were employers or own account workers, who had a job, business or farm, but were not at work.

## **Employment to population ratio**

For any group, the number of employed persons expressed as a percentage of the civilian population in the same group.

## **Full-time workers**

Employed persons who usually worked 35 hours or more a week (in all jobs) and those who,

although usually working less than 35 hours a week, worked 35 hours or more during the reference week.

### **Labour force**

For any group, persons who were employed or unemployed, as defined.

### **Labour force status**

A classification of the civilian population aged 15 years and over into employed, unemployed or not in the labour force, as defined. The definitions conform closely to the international standard definitions adopted by the International Conferences of Labour Statisticians.

### **Not in labour force**

Persons who were not in the categories employed or unemployed as defined.

### **Participation rate**

For any group, the labour force expressed as a percentage of the civilian population aged 15 years and over in the same group.

### **Part-time workers**

Employed persons who usually worked less than 35 hours a week (in all jobs) and either did so during the reference week, or were not at work in the reference week.

### **Response rate**

The number of fully responding dwellings expressed as a percentage of the total number of dwellings excluding sample loss. Examples of sample loss include: dwellings where all persons are out of scope and/or coverage; vacant dwellings; dwellings under construction; dwellings converted to non-dwellings; derelict dwellings; and demolished dwellings.

### **Seasonally adjusted series**

A time series of estimates with the estimated effects of normal seasonal variation removed. See Explanatory Notes 24 to 28 for more detail.

### **Trend series**

A smoothed seasonally adjusted series of estimates. See Explanatory Notes 29 to 32 for more detail.

## **Unemployed**

Persons aged 15 years and over who were not employed during the reference week, and:

- had actively looked for full-time or part-time work at any time in the four weeks up to the end of the reference week and were available for work in the reference week; or
- were waiting to start a new job within four weeks from the end of the reference week and could have started in the reference week if the job had been available then.

### **Unemployed looking for full-time work**

Unemployed persons who:

- actively looked for full-time work; or
- were waiting to start a new full-time job.

### **Unemployed looking for part-time work**

Unemployed persons who:

- actively looked for part-time work only; or
- were waiting to start a new part-time job.

## **Unemployment rate**

For any group, the number of unemployed persons expressed as a percentage of the labour force in the same group.

## **Unemployment to population ratio**

For any group, the number of unemployed persons expressed as a percentage of the civilian population in the same group.

# **What If**

## **WHAT IF...? REVISIONS TO TREND ESTIMATES**

## **EFFECT OF NEW SEASONALLY ADJUSTED ESTIMATES ON TREND ESTIMATES**



# TREND REVISIONS

Each time new seasonally adjusted estimates become available, trend estimates are revised. This revision is a combined result of the concurrent seasonal adjustment process and the application of surrogates of the Henderson average to the seasonally adjusted series (see paragraphs 24 to 32 of the Explanatory Notes).

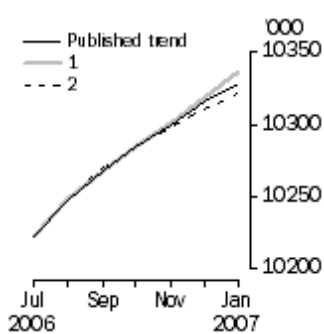
The examples in the tables below show two illustrative scenarios and the consequent revisions to previous trend estimates of employment and the unemployment rate. The revisions in the scenarios below are only due to the use of surrogates of the Henderson average, as the impact of revision of the seasonally adjusted estimates can not be estimated in advance.

**1** The February seasonally adjusted estimate is **higher** than the January estimate by:  
0.26% for employment  
1.80% for the unemployment rate

**2** The February seasonally adjusted estimate is **lower** than the January estimate by:  
0.26% for employment  
1.80% for the unemployment rate

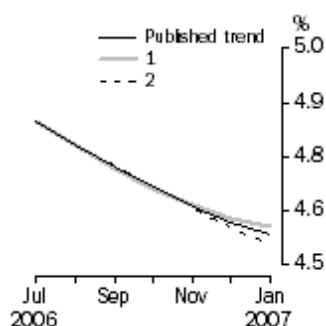
The percentage changes of 0.26% and 1.80% were chosen because they represent the average absolute monthly percentage changes in employment and the unemployment rate respectively.

## Employment



WHAT IF NEXT MONTH'S SEASONALLY ADJUSTED ESTIMATE IS:			
	Trend as published	(1) 10 361.6 i.e. rises by 0.26%	(2) 10 307.9 i.e. falls by 0.26%
2006			
October	10 284.0	10 284.1	10 285.0
November	10 300.0	10 300.5	10 298.0
December	10 315.3	10 318.4	10 310.5
2007			
January	10 327.9	10 335.8	10 320.8

## Unemployment Rate



WHAT IF NEXT MONTH'S SEASONALLY ADJUSTED ESTIMATE IS:			
	Trend as published	(1) 4.6 i.e. rises by 1.80%	(2) 4.5 i.e. falls by 1.80%
2006			
October	4.7	4.7	4.7
November	4.6	4.6	4.6
December	4.6	4.6	4.6
2007			
January	4.6	4.6	4.5

## Standard Errors

### STANDARD ERRORS

### STANDARD ERRORS

The estimates in this publication are based on information gained from the occupants of a sample survey of dwellings. Because the entire population is not surveyed, the published estimates are subject to sampling error. The most common way of quantifying such sampling error is to calculate the standard error for the published estimate or statistic. For more information, see paragraph 22 of the Explanatory Notes.

### LEVEL ESTIMATES

To illustrate, let us say the published level estimate for employed persons aged 15-19 years is 700,000 and the associated standard error is 9,800. The standard error is then used to interpret the level estimate of 700,000. For instance, the standard error of 9,800 indicates that:

- There are approximately two chances in three that the real value falls within the range 690,200 to 709,800 ( $700,000 \pm 9,800$ )
- There are approximately nineteen chances in twenty that the real value falls within the range 680,400 to 719,600 ( $700,000 \pm 19,600$ ).

The real value in this case is the result we would obtain if we could enumerate the total population.

The following table shows the standard errors for this month's level estimates.

AUSTRALIA			
	NSW	Vic.	Qld SA WA Tas. NTACT Males Females Persons
Aged 15 years and over			
Employed			

	Full time	'000	21.7	17.3	14.5	6.5	8.7	3.0	4.1	2.2	26.9	18.6	32.7
	Part time	'000	13.1	10.6	9.6	4.4	5.8	2.0	1.2	1.3	9.8	16.0	19.7
	Total	'000	24.9	20.2	15.6	7.6	9.6	3.6	4.9	2.3	29.1	26.1	36.9
Unemployed													
	Looking for f/t work	'000	8.2	6.1	4.7	2.6	2.4	1.2	0.6	0.7	8.5	7.3	11.5
	Looking for p/t work	'000	4.2	3.6	2.8	1.4	1.5	0.5	0.2	0.5	3.9	5.0	6.5
	Total	'000	9.4	7.3	5.5	2.9	2.8	1.4	0.7	0.9	9.5	9.0	13.4
Labour force		'000	25.5	20.6	15.7	7.8	9.7	3.7	5.0	2.3	29.7	26.8	37.6
Not in labour force		'000	23.2	17.9	13.3	6.6	9.1	3.3	5.0	2.0	24.3	29.5	34.9
Unemployment rate													
	Looking for f/t work	pts	0.3	0.3	0.3	0.5	0.3	0.7	0.7	0.5	0.2	0.3	0.1
	Looking for p/t work	pts	0.5	0.5	0.5	0.6	0.5	0.8	1.1	1.1	0.4	0.2	0.2
	Total	pts	0.3	0.3	0.2	0.4	0.2	0.6	0.6	0.4	0.2	0.2	0.1
Participation rate		pts	0.5	0.5	0.5	0.6	0.6	0.9	3.3	0.9	0.4	0.3	0.2
Aged 15-19 years													
Employed													
	Full time	'000	3.4	2.6	2.5	1.0	1.7	0.5	0.5	0.4	4.6	3.7	5.6
	Part time	'000	4.3	3.6	3.4	1.5	1.8	0.6	0.4	0.6	5.1	5.6	7.4
	Total	'000	5.4	4.4	4.4	1.8	2.6	0.8	0.6	0.7	6.6	6.5	9.2
Unemployed													
	Looking for f/t work	'000	3.3	2.1	2.1	1.3	1.1	0.5	0.2	0.4	3.6	3.1	4.8
	Looking for p/t work	'000	2.8	2.4	1.7	0.9	1.0	0.4	-	0.4	2.8	3.2	4.3
	Total	'000	4.5	3.3	2.8	1.6	1.5	0.6	0.2	0.6	4.6	4.5	6.5
Labour force		'000	6.1	4.9	4.8	2.1	2.9	0.9	0.6	0.7	7.2	7.1	10.1
Not in labour force		'000	7.0	5.4	3.9	2.0	2.6	1.0	1.3	0.6	7.0	6.7	10.3
Unemployment rate													
	Looking for f/t work	pts	3.0	3.1	2.6	4.8	2.2	5.1	4.8	6.5	1.6	2.2	1.3
	Looking for p/t work	pts	1.7	1.7	1.4	2.1	1.9	3.1	-	3.5	1.2	1.0	0.8
	Total	pts	1.6	1.6	1.3	2.3	1.5	2.9	3.1	3.3	1.0	1.0	0.7
Participation rate		pts	1.3	1.4	1.7	2.0	1.9	2.7	3.8	3.2	1.0	1.0	0.7
Unemployment to population ratio - looking for f/t work		pts	0.7	0.6	0.7	1.2	0.7	1.4	1.2	1.5	0.5	0.4	0.3

- nil or rounded to zero (including null cells)

## MOVEMENT ESTIMATES

The following example illustrates how to use the standard error to interpret a movement estimate. Let us say that one month the published level estimate for females employed part time in Australia is 1,890,000; the next month the published level estimate is 1,900,000 and the associated standard error for the movement estimate is 10,600. The standard error is then used to interpret the published movement estimate of 10,000. For instance, the standard error of 10,600 indicates that:

- There are approximately two chances in three that the real movement between the two months falls within the range -600 to 20,600 (10,000 + or - 10,600)
- There are approximately nineteen chances in twenty that the real movement falls within the range -11,200 to 31,200 (10,000 + or - 21,200).

The following table shows the standard errors for this month's movement estimates.

										AUSTRALIA										
										NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Males	Females	Persons
Aged 15 years and over																				
Employed																				
	Full time	'000	13.9	10.8	9.5	4.0	5.5	1.8	1.6	1.6	17.1	12.3	21.8							
	Part time	'000	8.5	6.6	5.5	2.6	3.3	1.1	0.8	0.9	7.2	10.9	13.1							
	Total	'000	16.7	13.0	12.1	5.6	7.4	2.3	1.8	1.8	18.8	16.8	26.5							

Unemployed													
	Looking for f/t work	'000	8.0	6.1	5.1	2.6	2.5	1.1	0.5	0.8	8.9	7.6	12.0
	Looking for p/t work	'000	4.5	3.7	2.9	1.4	1.6	0.6	0.3	0.5	4.1	5.4	6.9
	Total	'000	9.2	7.3	6.0	3.0	3.0	1.3	0.5	0.9	9.9	9.4	14.1
Labour force		'000	17.2	13.4	12.5	5.9	7.6	2.5	1.9	1.9	19.2	17.3	27.2
Not in labour force		'000	16.2	13.0	10.5	5.0	6.3	2.1	1.8	1.7	14.5	18.9	25.4
Unemployment rate													
	Looking for f/t work	pts	0.3	0.3	0.3	0.5	0.3	0.8	0.7	0.5	0.2	0.3	0.1
	Looking for p/t work	pts	0.5	0.5	0.5	0.6	0.5	0.8	1.7	1.1	0.5	0.3	0.2
	Total	pts	0.3	0.3	0.3	0.4	0.3	0.6	0.7	0.5	0.2	0.2	0.1
Participation rate		pts	0.3	0.3	0.4	0.5	0.5	0.6	1.2	0.7	0.2	0.2	0.2
Aged 15-19 years													
Employed													
	Full time	'000	2.7	2.0	2.1	0.8	1.4	0.4	0.3	0.3	3.6	2.9	4.3
	Part time	'000	3.6	2.8	2.6	1.1	1.5	0.5	0.3	0.4	4.0	4.4	5.6
	Total	'000	4.3	3.3	3.2	1.3	1.9	0.6	0.4	0.5	5.0	5.0	6.8
Unemployed													
	Looking for f/t work	'000	3.3	2.2	2.2	1.3	1.1	0.5	0.1	0.4	3.8	3.2	5.0
	Looking for p/t work	'000	2.9	2.7	1.8	1.0	1.1	0.4	0.2	0.5	3.1	3.5	4.7
	Total	'000	4.5	3.6	3.0	1.5	1.6	0.6	0.2	0.6	4.8	4.8	6.9
Labour force		'000	4.6	3.6	3.4	1.5	2.0	0.7	0.5	0.6	5.4	5.3	7.3
Not in labour force		'000	4.7	3.5	2.8	1.3	1.8	0.6	0.7	0.5	5.1	5.0	6.9
Unemployment rate													
	Looking for f/t work	pts	3.2	3.4	2.7	5.1	2.4	5.7	4.3	6.8	1.7	2.5	1.4
	Looking for p/t work	pts	1.8	1.8	1.5	2.3	2.0	3.1	7.1	3.7	1.2	1.1	0.8
	Total	pts	1.7	1.7	1.4	2.4	1.6	3.1	3.9	3.4	1.0	1.1	0.8
Participation rate		pts	1.0	1.1	1.2	1.4	1.4	1.9	3.1	2.4	0.7	0.8	0.5
Unemployment to population ratio - looking for f/t work		pts	0.7	0.7	0.8	1.2	0.8	1.4	0.7	1.6	0.5	0.5	0.4

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